
ENVIRONMENTAL Fact Sheet



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Approved Technologies for Septic Systems

Over the past several years, the N.H. Department of Environmental Services (DES) has approved many new innovative technologies for the treatment and disposal of wastewater to subsurface systems. All new "innovative/alternative" systems for on-site treatment or disposal of wastewater below the ground (usually referred to as "septic systems") need approval from DES under the provisions of NH Administrative Rule Env-Ws 1024, which allows general and provisional approvals. The following is an overview of the various products and technologies that DES has approved to date. But before listing the currently approved systems, we must present these caveats and warnings:

- Systems are listed in random order.
- Mention of a company name, system or device in this list does not constitute DES approval to use that system or device to address any specific problem. Consult a licensed septic system designer to determine what solutions may be appropriate for your problem.
- **PUMP OUT YOUR SEPTIC TANK BEFORE THERE'S A PROBLEM.** Many times, a "technological" solution is not necessary because ordinary maintenance may solve the problem. See Env-Ws 1023 for operating requirements. Also see the other Fact Sheets in DES's SSB series for useful information on septic system operation.
- Where a designer specifies a certain product, such as a brand of septic tank effluent filter, and a different (but similar) brand is used in the actual installation, DES requires the written concurrence of the system designer before approving the tank/septic system for operation.

Leaching Systems

Stone/pipe - field, trench, drywell	"Standard" systems.
Chambers - concrete, plastic	"Standard" systems, but field sizing may be product-specific. See approved design manual.
"Enviro-Septic" system	A "standard" system, field sizing is product-specific. See approved design manual.
"Geo-Flow" system	A "standard" system, field sizing is product-specific. See approved design manual.
Eljen "In-Drain"	A "standard" system, but field sizing is product-specific. See approved design manual. Manufacturer's review for larger commercial systems.
Ruck "A-Fin"	A "standard" system, field sizing is product-specific. See approved design manual. Manufacturer's review

required for larger commercial systems.

Mechanical treatment devices , with general DES Approval for leach field reduction:

Norweco "Singulair"	Biological treatment.
Amphidrome Recirculating Batch Reactor	Biological treatment.
Wastewater Alternatives, Inc. "The Clean Solution"	Biological treatment.
Jet Package Sewage Treatment Plant	Biological treatment.
Spec Industries AIRR trickling filter	Biological treatment.
SeptiTech Recirculating Trickling Filter	Biological treatment.
BioMicrobics FAST system	Biological treatment.
Zabel SCAT biofilter	Biological treatment.
Orenco AdvanTex system	Biological treatment.
MicoSepTec EnviroServer system	Biological treatment.
CMS ROTORDISK	Biological treatment.
Aeration Systems, LLC, OxyPro system	Biological treatment.
BioClere system	Biological treatment.

Mechanical treatment devices, provisional DES Approval for leach field reduction:

SeptiTech Recirculating Trickling Filter	Biological treatment. The provisional approval is for leach field size reductions beyond that in SeptiTech's General approval.
BioMicrobics FAST System	Biological treatment. The provisional approval is for leach field size reductions beyond that in BioMicrobic's General approval.
WasteTech STM 2000 unit	Physical treatment.

Provisional approval is granted for newer technologies per Env-Ws 1024.06(d) for cases where DES finds that "... there is not sufficient operating history or other valid data to allow general use of the technology..." Provisional approvals are granted for a limited number of applications for a limited period of time. The applicant is required to do performance monitoring of each installation and report the results to DES.

For new construction where a mechanical treatment device with a reduced-size leach field, under a General or Provisional approval, is proposed for use on a lot that was created prior to adoption of DES subdivision rules, the design submitted shall demonstrate sufficient capacity to construct a full sized leaching facility on the lot.

All mechanical systems require on-going professional maintenance. The person doing the maintenance must be a licensed treatment plant operator. See DES Fact Sheet WD-WEB-2 for information in the licensure program. A Grade 1-OIT license is usually considered sufficient for systems listed here.

Other approved, or approvable, treatment devices and methods:

M.C.C., Inc. "Cajun Aire"	Mechanical unit, approved under Env-Ws 1024.
Cromaglass Sequencing Batch Reactor	Mechanical unit, approved under Env-Ws 1024.
"White Knight," "Pirana"	These are mechanical devices that are inserted into an existing septic tank to provide treatment of the effluent leaving the tank. They are allowed for rehabilitation of failed systems.
Constructed Wetlands	Innovative, has been approved for a few sites. Significant engineering required.
Spray Irrigation	Has been approved for a few sites. Very significant engineering and Groundwater Discharge Permit required. A major issue is control of access to the area where spraying occurs. There are significant public health concerns with coming into contact with partially-treated wastewater.
Sand Filters	Innovative, has been approved for a few sites. Significant engineering required.

Other systems & devices

Septic tank effluent filters	Allowed and encouraged.
Presby "Maze"	Device inserted into septic tank. 30% reduced field size allowed for commercial systems.
Holding Tank	Only applicable in very limited circumstances, see Env-Ws 1022.03
Composting toilets	Allowed, but no leach field reduction allowed for the remaining wastewater whenever the building has running water.
"Mini dry well" and privies	Only allowed for buildings with no running water.

For more information:

For more information about the above list, or to apply for approval of an innovative/alternative product from DES, please contact: James Falicon, NH Department of Environmental Services, 29 Hazen Drive, Concord, NH 03301; (603) 271-2915.